

### **DETERMINE ENEMY FORCE SIZE**

The next step is to determine the size of the enemy force that each AA can support. The primary reason for determining the size of the enemy force is to allocate friendly forces. An important consideration is to identify any terrain that may cause the enemy to change formation.

### **DETERMINE ENEMY VULNERABILITY**

In the last step, the commander and staff consider where the enemy is vulnerable. Attacking the enemy at the point of vulnerability with fires and obstacles can lead to a decisive victory. Also, obstacles should be designed against an enemy's breaching vulnerability. If some types of obstacles can be easily breached by the enemy, using those obstacles to shape the battlefield may be ineffective.

### **OBSTACLE INTENT**

The commander decides how he wants to use obstacles to support his scheme of maneuver. He defines the end result that fires and obstacles must achieve. His obstacle intent provides purpose and unity of effort to the obstacles emplaced by subordinates. At TF level and normally at brigade level, obstacle intent identifies the following:

- Target.
- Obstacle effect.
- Relative location.

#### **TARGET**

Obstacles are a force-oriented combat multiplier. Subordinates must understand the target of the obstacles so that they can properly design and site obstacles.

#### **OBSTACLE EFFECT**

Subordinates must know the commander's desired obstacle effect: disrupt, turn, fix, or

block. This provides a common expectation of the effect that the commander wants their fires and obstacles to have on enemy maneuver.

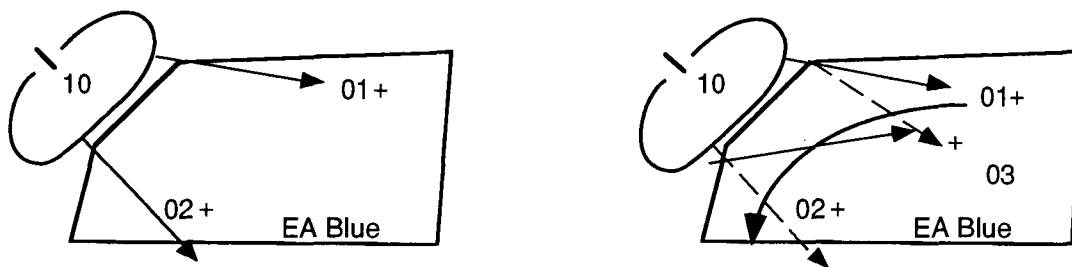
### **RELATIVE LOCATION**

Obstacle location is a vital component of obstacle intent since it ties the obstacle effect and target to the scheme of maneuver. Subordinates must understand the relative location of obstacles to ensure that the desired effect occurs at the right place. Commanders establish their obstacle intent concurrent with organizing and developing the fire plan or scheme of maneuver. Each component of obstacle intent directly influences the fire plan or scheme of maneuver. Obstacle planning does not drive fire planning or the scheme of maneuver. Subordinates plan, adjust, and execute obstacles and fire-and maneuver-control measures to meet the commander's obstacle intent.

*Figure 3-1* illustrates the impact that obstacle intent can have on adjusting fire-control measures at the TF level. The TF commander assigns Team A to occupy and defend BP 10 oriented in EA Blue on TRPs 01 and 02. The commander intends to use the obstacles and fires in EA Blue to turn an enemy battalion to the south. To mass fires at the initial turning point, the TF commander adds TRP 03. The company team commander must first mass all fires between TRPs 01 and 03. Once the enemy force begins turning, the commander will shift some or all fires between TRPs 02 and 03.

### **FIRES AND OBSTACLE EFFECT**

All leaders (from TF commander to squad leader) must understand how obstacles and fires mesh to achieve the obstacle effect. This enables them to maximize the effectiveness of available fires and obstacles, exploit



**Figure 3-1. Impact of obstacle intent on fire control.**

the weaknesses they create in the enemy, and defeat the enemy attack. Fire control requires that named areas of interest (NAIs), targeted areas of interest (TAIs), and TRPs synchronize indirect fires with direct fires and obstacles.

### FIRES AND DISRUPT EFFECT

Commanders use the disrupt effect to cause an enemy to—

- Break up his formation and tempo.
- Interrupt his timetable.
- Commit breaching assets prematurely.
- Piecemeal his attack.

The disrupt effect also helps to deceive the enemy concerning the location of friendly defensive positions, separate combat echelons, or separate combat forces from their logistical support. To accomplish the disrupt effect, the obstacles and fires must—

- Cause the enemy to deploy early.
- Slow and disrupt part of the enemy force.
- Allow part of the enemy force to advance unimpeded.

Commanders use indirect fires and long-range direct fires to force the enemy to change from a march formation to a prebattle or attack formation. Generally, indirect fires alone will not force an enemy to deploy except when he is dismounted.

Commanders plan suppression and neutralization indirect-fire targets (or groups) on the

obstacles in the disrupt obstacle group. They use indirect fires with the obstacles to slow the part of the enemy force that makes contact with the obstacles. Commanders also use every means available to disrupt enemy C2 throughout the enemy formation. Commanders use electronic warfare (EW), smoke, and indirect fires to disrupt the enemy's decision cycle and increase the direct-fire window on the unimpeded part of the enemy force.

Commanders use TRPs to mass direct fires against that part of the enemy formation not impeded by obstacles and indirect fires. They do not execute those fires until the force separates from its parent formation. They use direct-fire weapons that can deliver a lethal initial volley of fire. A quick volley is critical if the enemy has good C2 and can react quickly to the disruption of its formation. Disengagement criteria are also a consideration in weapons selection. If commanders plan a short engagement, they choose a weapon system that can fire and maneuver without becoming decisively engaged. If they expect a long engagement, they select a weapon system that can sustain rapid fire with sufficient survivability to support the engagement.

Commanders plan fire-control measures that allow for the shift of direct or indirect fires to the enemy slowed by the obstacle or to the enemy bypassing the obstacle. They position themselves to make an assessment of the obstacle effect. If the enemy is rapidly breaching the obstacles, they may shift

direct fires against the enemy's breaching assets. On the other hand, if too large a force bypasses, commanders may shift all fires against the unimpeded enemy to inflict maximum losses and then reposition friendly forces to their subsequent positions.

Figure 3-2 illustrates the integration of fires with obstacles to achieve a disrupt effect. In this example, the TF commander assigns Team D to defend BP 14 oriented in EA Red to disrupt the lead enemy battalion forward of the TF EA. Team D will then reposition to a subsequent BP to help in the fight in the TF EA. Team D is a balanced company team with one armor platoon, one mechanized infantry platoon, and an armor company HQ. Fire-control measures include TRPs 03 and 04 forward of the obstacle group and TRPs 01 and 02 south of the obstacle group. The TF commander orders the TF fire support officer (FSO) to plan artillery group A1B as a suppression mission to cover the disrupt obstacle group. The FSO assigns the Team D fire support team (FIST) the responsibility for execution of A1B.

As the attacking enemy approaches the obstacle group, the company team commander orders the mechanized platoon to engage using the Bradley fighting vehicles' (BFV's) tube-launched, optically tracked, wire-guided (TOW) missiles between TRPs 03 and 04. The commander uses indirect

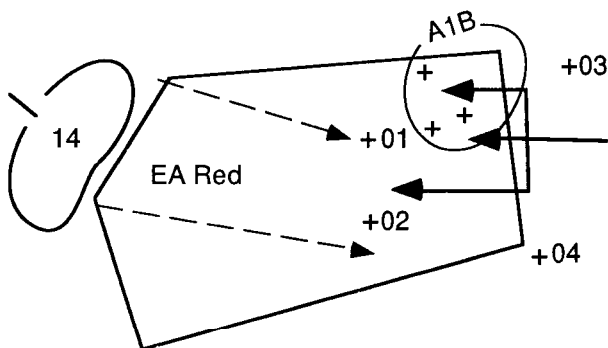


Figure 3-2. Fires and disrupt effect.

fires with the long-range TOW fires, which causes the enemy to button up and deploy into prebattle formation.

The commander orders the company team FIST to execute group A1B to coincide with the enemy's encounter with the obstacles in the obstacle group. Group A1B includes dual-purpose improved conventional munitions (DPICM) and smoke. The combination of fires, smoke, and obstacles slows the northern half of the enemy. As the enemy loses C2 over its formation, the southern half of the enemy separates from the remainder of the battalion and continues forward.

As the southern half of the enemy formation reaches the line defined by TRPs 01 and 02, the company team commander masses all direct fires on the lead enemy vehicles. The company team commander uses volley fires to destroy the southern half of the enemy battalion. He then shifts all direct fires to the remainder of the enemy force, fires one volley, and repositions to his subsequent BP.

### FIRES AND TURN EFFECT

Commanders use the turn effect to integrate fires and obstacles to divert an enemy formation off one AA to an adjacent AA or into an EA. To accomplish the turn effect, the obstacles and fires must—

- Prevent the enemy from bypassing or breaching at the start of the turn.
- Force the enemy to bypass in the desired direction.
- Maintain pressure on the enemy throughout the turn and exploit its exposed flank.

Commanders normally anchor turning obstacle groups to restrictive terrain or to a strongpoint. They plan fire-control measures that focus all available fires first at the anchor point. When the enemy hits the obstacle, the combination of fires, obstacles,

terrain, and forces must seal any bypass at the anchor point.

Commanders plan an indirect-fire target or group to turn the enemy away from the anchor point. They focus enough direct-fire assets to deal with the size of the enemy force expected at that point. For example, if a commander expects an enemy company at the anchor point, he should allocate at least a friendly platoon to mass fires at that point. If the enemy breaches the obstacle at the anchor point, the turning effect could be lost. This could unhinge the entire operation.

The critical task in achieving the turn effect is to use obstacles and overwhelming fires to force the enemy to move in the direction desired by the friendly commander. As the engagement progresses, the friendly force stops any attempt to breach the obstacle and makes breaching assets priority targets. Direct-fire systems are the primary means for destroying enemy breaching equipment. Indirect fires can attack individual targets, but they may be less timely. Targeting all

obstacles in the obstacle group and registering TRPs during preparation will make indirect fires more responsive.

Commanders develop a fire plan and fire-control measures that allow them to shift fires as necessary to cover the turn effect. Both direct and indirect fires shift in unison to attack and maintain pressure on the flank of the enemy force. Fires covering the length of the turn effect are less focused than at the turn point. Company team commanders give platoons sectors of fire between TRPs. Commanders usually execute indirect fires in groups instead of aiming at individual targets. Direct and indirect fires continue throughout the length and depth of the turn effect. These fires simultaneously exploit the vulnerability created by the turn effect and protect the integrity of the obstacles:

*Figure 3-3* illustrates how a unit can integrate direct and indirect fires with obstacles to achieve the turn effect. In this example, the TF commander assigns Team C the

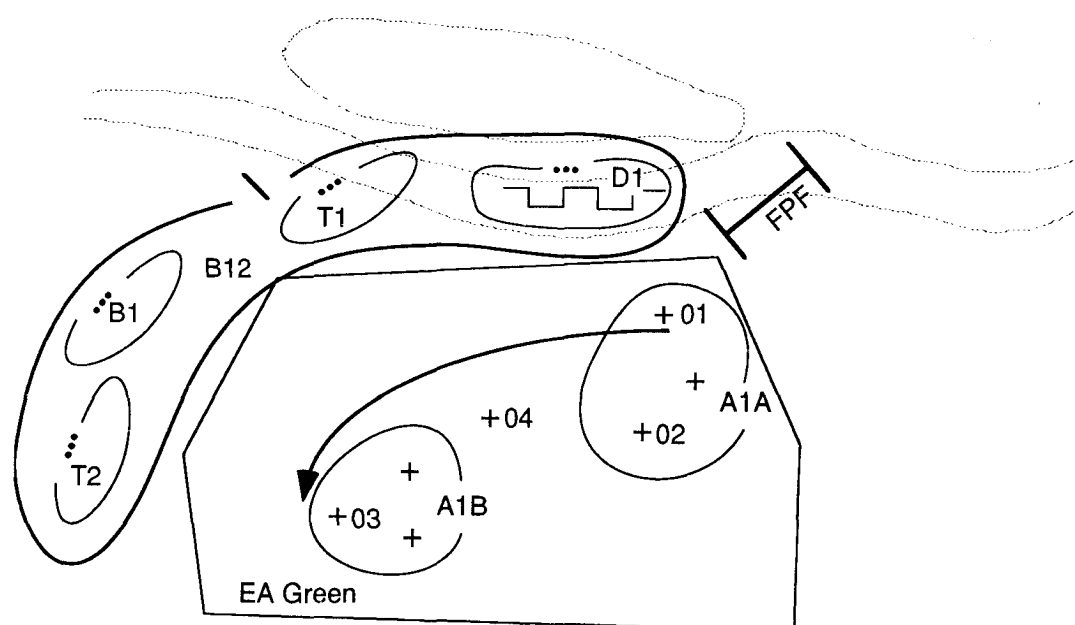


Figure 3-3. Fires and turn effect.

mission to defend BP 12 oriented in EA Green to turn the enemy into the main TF EA to the south. Team C is a tank-heavy company team with two armor platoons—a mechanized infantry platoon and an armor company HQ. The company team commander positions one tank platoon each in BPs T1 and T2. He separates the mechanized platoon into a mounted element in BP B1 and a dismounted element in BP D1. The commander has tied the anchor point of the turning obstacles into restricted terrain and the dismounted infantry position. Fire-control measures include TRPs 01 and 02 to focus fires on the turning point and TRPs 03 and 04 to cover the length of the turn effect. The TF commander allocates artillery group A1A as a destroy mission to cover the anchor point and group A1B as a neutralize group to support the turn effect. He also allocates one mortar FPF that the company team commander uses to protect the flank of BP D1. The company team commander gives the dismounted-element forward observer (FO) the primary responsibility for firing A1A and the FPF. The company team FIST serves as backup for A1A and is responsible for executing A1B.

As the enemy approaches the anchor point of the turning obstacle group, the dismounted FO executes group A1A, which also triggers the direct-fire engagement. The platoons in BPs T1 and B1 engage the enemy, orienting on TRPs 01 and 02. The dismounts in BP D1 engage the enemy orienting on TRP 01, getting the short-range weapons of the dismounted infantry into the fight. The dismounted FO can fire the mortar FPF to help destroy any dismounted attack on BP D1 or any dismounted breaching attempts at the anchor point. The combination of massed fires, obstacles, and terrain seals all bypasses in the north and forces the enemy to begin bypassing to the south.

The enemy begins bypassing as the result of small-unit actions. Small-unit leaders and individual vehicle commanders seek to avoid

destruction and continue the attack, bypassing to the south. When the lead enemy vehicles pass TRP 04, the company team commander shifts fires from BPs T2 and B1 to the area between TRPs 02 and 03. First, the BFVs engage with TOWs only between TRPs 01 and 02. The change in orientation to cover the turn effect reduces the range of fire, and the BFVs begin using all weapon systems. Simultaneously, the tank platoon in BP T1 shifts its fires to the area between TRPs 02 and 03 but remains prepared to shift back to TRP 01. The dismounts in BP D1 continue to orient on TRP 01. The company team FIST adjusts group A1B to support the turn effect. All units maintain a high volume of fire to ensure that the enemy bypasses the turn obstacle group to the south and into the main TF EA.

### FIRES AND FIX EFFECT

Commanders use the fix effect to focus fire planning and obstacle effort to slow an attacker within a specified area, normally an EA. The fix effect helps fires to defeat the enemy in detail or to gain the necessary time for forces to reposition while inflicting maximum casualties. To accomplish the fix effect, the obstacles and fires must—

- Cause the enemy to deploy into attack formation early.
- Allow the enemy to advance slowly into the EA.
- Make the enemy fight in multiple directions once he is in the EA.

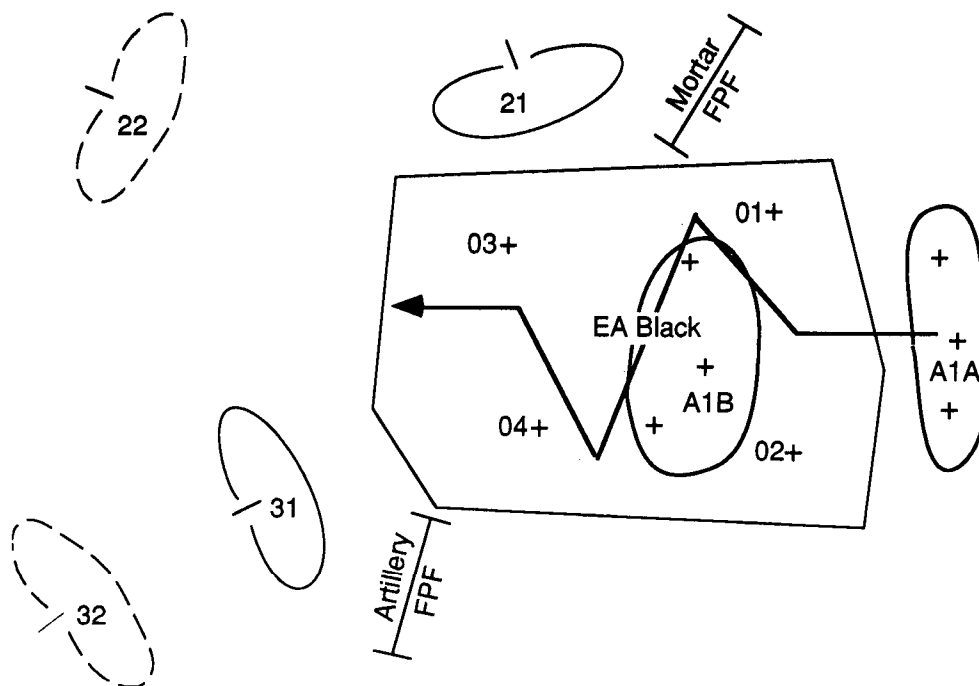
Commanders plan indirect fires forward of the obstacles to suppress or neutralize the enemy. They synchronize indirect fires with long-range direct fires that cause the enemy to deploy out of a march or a prebattle formation. Ideally, units site obstacles at the enemy's maximum-fire range but inside the friendly effective fire range. If the enemy is in attack formation, this allows obstacles and fires to attack the full frontage of the enemy.

Initially, commanders orient fires on the enemy force as a whole. However, destroying enemy breaching assets becomes increasingly important as the enemy continues to advance into the EA. To maximize obstacle effect and inflict maximum losses on the enemy, the fire plan requires an increase in the intensity of fires as the enemy advances. Commanders plan successive TRPs, synchronized with obstacles closer to the BPs, which trigger engagement by additional weapons. They vary the intensity of fires through fire control to allow the enemy to continue a slowed advance. When the enemy fully commits, friendly forces complete its destruction.

Once the enemy commits in the EA, the fire plan forces the enemy to fight in as many directions as possible. This serves to further slow its advance, disrupt its C2, reduce its mass, and provide interlocking fires with flank shots on individual targets. Combining fires from multiple directions with the random orientation of individual obstacles

further confuses the attacker. For direct fires, commanders consider the use of TRPs and supplementary positions to reorient fires. They also consider the use of protective obstacles to protect the force. The FSO and FISTs plan targets to hold the enemy in the EA and FPFs on critical MCs that may let the enemy threaten friendly positions.

*Figure 3-4* illustrates some considerations for integrating fires and obstacles to achieve a fix effect. The TF commander has arrayed two company teams oriented into EA Black to destroy two enemy battalions. Team A, with two mechanized platoons and one tank platoon, occupies BP 21 oriented between TRPs 02 and 04. Team B has two tank platoons, one mechanized platoon, and one AT platoon and occupies BP 31 oriented between TRPs 01 and 02. The TF commander assigns Teams A and B subsequent positions in BPs 22 and 32, respectively. The TF commander directs his FSO to plan two artillery groups, A1A and A1B. Group



**Figure 3-4. Fires and fix effect.**

A1A is a neutralize mission to help force the enemy to deploy into prebattle or attack formations. Group A1B is a destroy mission to support the enemy's destruction in EA Black. The FSO assigns Team A's FIST the responsibility for A1A and A1B, with Team B's FIST providing backup. Team B is responsible for establishing EA Black and siting obstacles; however, they coordinate all TRP and obstacle locations with Team A.

The TF commander plans to vary the intensity of fires in the EA through effective fire control. As the enemy approaches the EA, Team A's FIST executes group A1A. According to the TF execution matrix, this triggers the long-range TOW fires from Team B's mechanized and AT platoons between TRPs 01 and 02. The enemy begins deploying into a prebattle formation and continues to advance.

As the enemy passes the line defined by TRPs 01 and 02, Team A's commander orders his mechanized platoons to begin engaging the enemy with TOWs oriented on TRP 02. The enemy begins deploying to an attack formation. As the lead enemy vehicles approach the line defined by TRPs 03 and 04, Team A's FIST executes group A1B. This triggers the fires of all weapons in both company teams. Team A orients between TRPs 02 and 04, and Team B orients between TRPs 03 and 04.

In the example, the enemy encounters increasing fires as it advances into the EA. The combined fires of both company teams and the indirect fires from A1B do not attack the enemy until it reaches TRPs 03 and 04. More importantly, the commander commits Team A's fires when obstacles affect the enemy's mobility the most. This kind of fire control requires a detailed execution matrix and detailed rehearsals by every leader.

The TF commander can reposition the company teams to BPs 22 and 32 to—

- Confuse the enemy.

- Maintain a standoff.
- Posture the force to disengage.

The TF commander allocates Team A one mortar FPF and Team B one artillery FPF. Each team commander places his FPF to protect the flanks of his position. He may also use these targets to contain assaulting forces. Team A and B commanders also designate supplementary positions within their BPs to which they can shift forces to address a threat to their flanks.

### **FIRES AND BLOCK EFFECT**

Commanders use the block-obstacle effect to integrate fire planning and obstacle effort to stop an attacker along a specific AA or to prevent the enemy from advancing through an EA. To accomplish the block effect, the obstacles and fires must—

- Prevent the enemy from bypassing or breaching the obstacles.
- Maximize available standoff.
- Stop the enemy's forward movement.

Commanders consider obstacle protection when planning fire-control measures. The first mission of the overmatching force is to stop any bypassing or breaching attempt. They respond to any attempt to breach or bypass with a quick volley of direct and indirect fires. Blocking obstacles stop enemy maneuver and force the enemy to commit breaching assets that friendly forces destroy by fire. Higher level commanders may allocate other forces to the task of completing the enemy's destruction, such as a joint air attack team (JAAT) or a ground CATK.

To support survivability, commanders position forces to provide standoff so that the force can survive. The EA must cover the entire AA. The maximum effective range of the overmatching weapons, minus standoff, limits the depth of the EA. The commander positions his forces so that he can mass interlocking fires across the entire AA. The defending force must be able to concentrate

all available fires within the obstacle group. Commanders array weapon systems in depth based on their maximum effective ranges.

The success of the blocking effect is measured by its impact on the enemy advance, not by enemy losses. The block effect requires the most resource intensive type of tactical obstacle. Commanders only use it at critical points on the battlefield. Normally, the mission of forces overmatching a blocking obstacle effect is to defeat lead enemy units and cause the attacker to reconsider the deployment of follow-on forces. Normally, commanders cannot expect a force overmatching a blocking group to both protect the obstacles and defeat the enemy.

Figure 3-5 illustrates some considerations to integrate fires and the block effect. The TF commander has assigned Team A the mission to defend BP 5 oriented into EA Gold to stop an enemy battalion from advancing along this AA. Team A is an armor company team with two armor platoons and an AT

platoon. Team A's commander positions one armor platoon each in BPs 15 and 25 and the AT platoon in BP 35. The company team commander positions the BPs to allow each weapon to engage about 1,000 meters beyond the obstacles and still achieve acceptable standoff. Fire-control measures include TRPs 01 and 04 at the north and south ends of the obstacle group, TRP 02 forward of the obstacle group, and TRP 03 at the rear of the obstacle group. The TF commander orders the FSO to plan artillery group AID as a destroy mission on the obstacle group. He also plans two linear targets along the rear trace of the obstacle group. Team A's FIST is responsible for executing all indirect targets.

As the enemy vehicles enter EA Gold, they are still in a march formation. As the lead enemy units pass the line defined by TRPs 01 and 04, and the line defined by TRPs 04 and 02, they hit the first obstacles in the block-obstacle group. The company team commander initiates volley fires from all

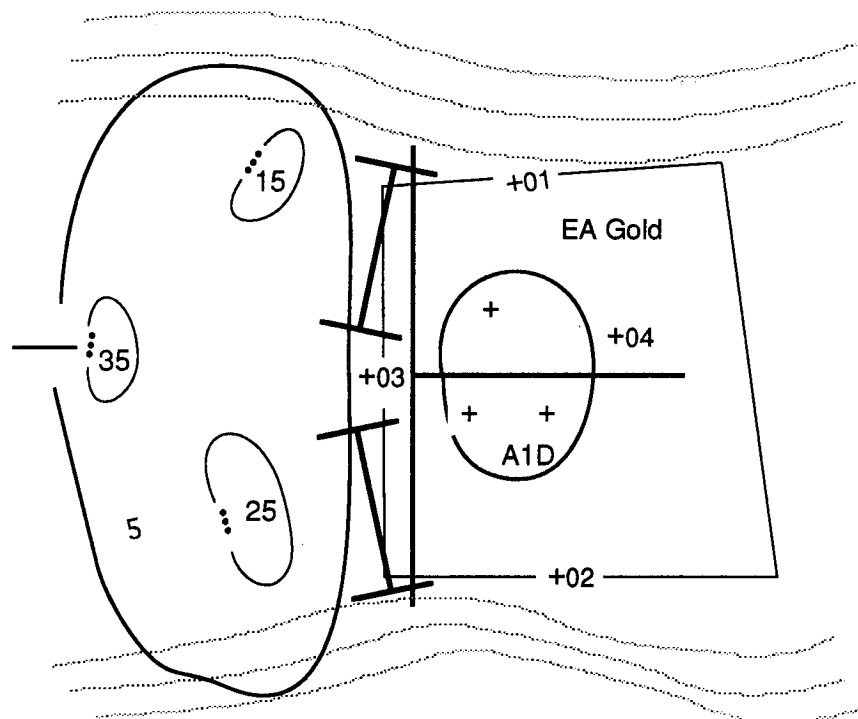


Figure 3-5. Fires and block effect.



platoons. The tank platoons in BPs 15 and 25 orient between TRPs 04 and 02 and between TRPs 01 and 04, respectively. The AT platoon orients between TRPs 01 and 02. The tank platoons concentrate on TRPs 01 and 02 to defeat any bypass attempts where the obstacles tie into the impassable terrain. All forces concentrate on destroying any breaching assets as they move forward.

As the enemy continues to advance, some breaching attempts are successful through the initial obstacles. The company team commander emplaced obstacles in depth and shifts fires from BP 15 to between TRPs 01 and 03 and from BP 25 to between TRPs 03 and 02. The company team FIST executes group AID to help in the destruction of breaching assets. The company team commander shifts the fires from BP 35 to concentrate on breaching equipment.

Because of the depth and complexity of the obstacles, the high volume of fires destroyed most of the enemy's breaching assets. The company team continues a high volume of fire to defeat further breaching attempts and to discourage the enemy from committing follow-on forces along this AA.

### **OBSTACLES AND OPERATIONS IN DEPTH**

Commanders use obstacles to support operations in depth. Mission analysis drives the need for and the types of obstacles; however, analyzing requirements throughout the depth of the battlefield provides some idea of how to use obstacles. Commanders consider three complementary elements when planning obstacles to support operations. They are—

- Deep operations.
- Close operations.
- Rear operations.

### **DEEP OPERATIONS**

Normally, commanders use situational obstacles to support deep operations. In the offense, they use obstacles to help interdict enemy reinforcements or reserves. In the defense and in the retrograde, they use obstacles to attack enemy follow-on formations or subsequent echelons. Commanders use these obstacles to support counterfire activities against enemy indirect-fire units. They also use obstacles to attack enemy assets at fixed airfields or logistics sites.

### **CLOSE OPERATIONS**

During close operations, commanders use the full range of tactical and protective obstacles. Offensive, defensive, or retrograde operations usually require different types of obstacles.

In the offense, commanders use situational obstacles to support the defeat of defending enemy forces. They attack enemy reserves or reinforcing units with these obstacles. Commanders use them to prevent forces from repositioning or to fix part of a defending enemy force while massing on the remainder of the force. They also use obstacles to protect the flanks of friendly units, and they plan obstacles on the objective to support their transition to the defense. Reconnaissance and security forces use situational obstacles to help delay or defeat enemy CATKs. During movements to contact (MTCs), security forces use situational obstacles to help fix enemy forces while the friendly main body maneuvers into a position of advantage. Commanders ensure that obstacles do not interfere with the maneuver of the reserve.

In the defense, commanders integrate all types of obstacles to slow, canalize, and defeat the enemy's major units. In an area defense, the commander uses protective obstacles to enhance survivability. He relies